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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,181	02/27/2002	Masaki Hamamoto	70551/57152	1419
21874	7590	05/10/2004	EXAMINER	
EDWARDS & ANGELL, LLP P.O. BOX 55874 BOSTON, MA 02205			DINH, TIEN QUANG	
			ART UNIT	PAPER NUMBER
			3644	

DATE MAILED: 05/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,181

Applicant(s)

HAMAMOTO ET AL

Examiner

Tien Dinh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 16-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8 and 16-19 is/are allowed.
- 6) ☒ Claim(s) 20-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 20-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 20, 2nd line from the bottom, "the center of gravity" lacks antecedent basis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gray or Remo Aeronautical Corp. in view of Darbyshire.

Gray or Remo Aeronautical Corp. discloses a flying body having a wing portion (with two wings) that flutters, driving portion to move the wing portion up and down, main body, and a time average for the series of down and up strokes of the wing to allow the flying body to fly. In the up stroke, the volume is less than the volume of the down stroke (this is how the aircrafts can fly). The wing portion has a wing shaft (see figure 4 in Remo and figure 1 in Gray) that supports

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the wing portion and allows the wing portion to be connected to the body. Please note that when the wing portion is in its up and down stroke positions, the torsion angle is changed so that the aircraft can fly. Therefore, the torsion angle in the down stroke is different from that of the torsion angle in the up stroke. The driving portion changes with time said torsion angle. The apparatus can hover using the two wings. Hover is defined as "To remain or linger in or near a place." Gray or Remo Aeronautical Corp. is silent on the shift of center of gravity. However, Darbyshire discloses that means to control the shift of the center of gravity is well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have used a means of shift the center of gravity in Gray or Remo Aeronautical Corp.'s system as taught by Darbyshire to allow greater maneuverability to the flying system.

Re claim 22, it would have been obvious to one skilled in the art to have made the flying machine of Gray or Remo Aeronautical Corp. small enough so that it can be flown indoors.

Allowable Subject Matter

Claims 1-8 and 16-19 are allowed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Charron discloses flying device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tien Dinh whose telephone number is 703-308-2798. The examiner can normally be reached on 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Jordan can be reached on 703-306-4159. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TD

Tien Dinh